

Customer No.: 31561
Docket No.: 12739-US-PA
Application No.: 10/710,698

To the Claims:

Claims 1-7 (cancelled)

Claim 8 (currently amended) A physical vapor deposition apparatus, comprising:
a reaction chamber; and

a rotating magnetron device, disposed above and outside said reaction chamber, said rotating magnetron device including at least two magnet sets, said magnet sets being axially-symmetric or planarly-symmetric to each other and magnetic pole of said magnet sets being disposed opposite to each other, wherein two symmetrical magnets in two correspondingly symmetrical magnet sets have opposite orientations in magnetic pole and two adjacent magnets in each of said magnet sets have opposite orientations in magnetic pole.

Claim 9 (currently amended) The apparatus of claim 8, wherein said reaction chamber includes:

a chamber;

a target backboard, at the top of said chamber; and

a platen disposed at the bottom of said reaction chamber.

Claim 10 (original) The apparatus of claim 9, wherein an axis of said axially-symmetrically disposed magnet sets or a plane of said planarly-symmetrically disposed magnet sets passes through a central axis of said target backboard, and when

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performing a physical vapor deposition process, said rotating magnetron device rotates along said central axis.

Claim 11 (original) The apparatus of claim 8, wherein one of said two magnet sets includes a first magnet and a second magnet; the other of said two magnet sets includes a third magnet and a fourth magnet; said first magnet and said third magnet are disposed axially-symmetrical to each other; said second magnet and said fourth magnet are disposed axially-symmetrical to each other; a first magnetic pole of said first magnet and said fourth magnet and a first magnetic pole of said second magnet and said third magnet are disposed opposite each other.

Claim 12 (original) The apparatus of claim 8, wherein one of said two magnet sets includes a first magnet and a second magnet; the other of said two magnet sets includes a third magnet and a fourth magnet; said first magnet and said third magnet are disposed planarly-symmetrical to each other; said second magnet and said fourth magnet are disposed planarly-symmetrical to each other; a first magnetic pole of said first magnet and said fourth magnet, and a first magnetic pole of said second magnet and said third magnet are disposed opposite to each other.

Claim 13 (currently amended) A physical vapor deposition process, comprising:
providing a chamber and a rotating magnetron device disposed above and outside said reaction chamber, said rotating magnetron device including at least two

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magnet sets, said magnet sets being disposed axially-symmetrical or planarly-symmetrical and magnetic pole of said magnet sets being disposed opposite, wherein two symmetrical magnets in two correspondingly symmetrical magnet sets have opposite orientations in magnetic pole and two adjacent magnets in each of said magnet sets have opposite orientations in magnetic pole; and

starting said rotating magnetron device to perform a deposition process, and rotating said rotating magnetron device during said deposition process.

Claim 14 (original) The process of claim 13, wherein said magnet sets are disposed axially-symmetrical, and said rotating magnetron device rotates by $180n$ degrees during said deposition process, wherein said n is a positive integer.

Claim 15 (original) The process of claim 13, wherein said magnet sets are disposed axially-symmetrical, and said rotating magnetron device rotates by $360n$ degrees during said deposition process, wherein said n is a positive integer.

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To the Drawings:

The attached sheet of a drawing has a change to FIG. 1. This sheet, which includes FIG. 1, replaces the originally-filed sheet for FIG. 1. More specifically, FIG. 1 is amended to conform to the correction proposed by the Examiner by designating a legend "PRIOR ART".

Attachment: Replacement Sheet Annotated Sheet Showing Changes